

Vincent Blondeau

# Test Sucker

How to Convert Real Production  
Objects to Automated Test Cases?



# A SWISS COMPANY

- 21 Years old
- 5 Founders are top management
- 60 Employees with strong methodology
- 4 Redundant datacenters





**8**

languages supported

billion Euro assets under management

**25** €



**130.000**

authorized users

**17**

countries

**800.000**

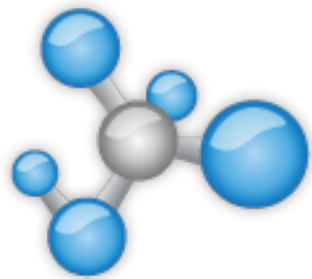
policies

**200+**

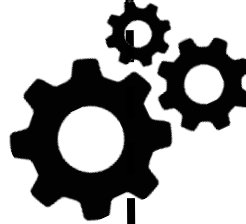


life insurance products implemented

# CORE TECHNOLOGY



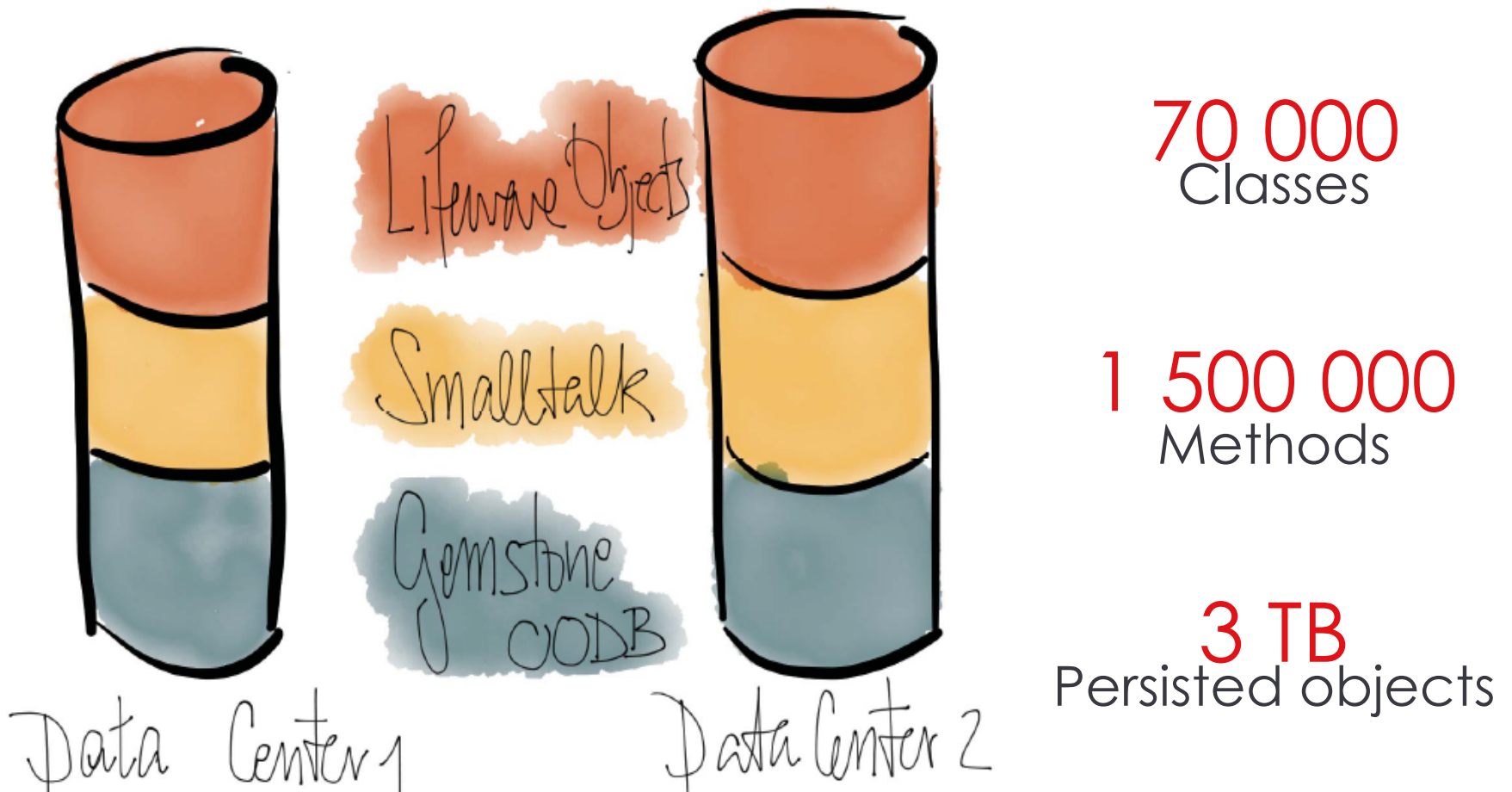
Development



GEMSTONE<sup>TM</sup>  
S

Production

# OBJECTS ALL OVER

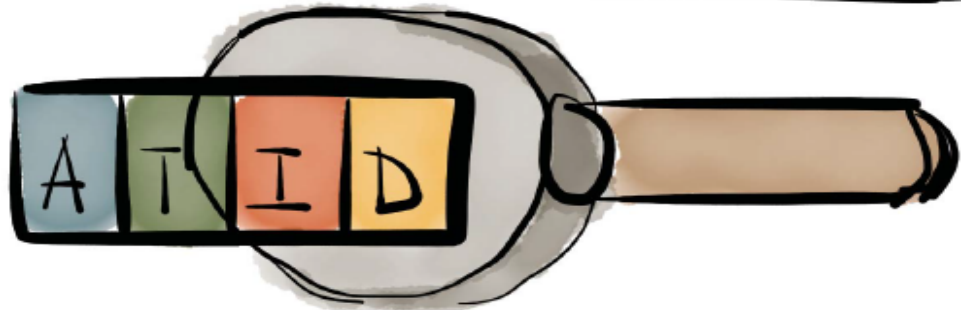


# EXTREME EFFICIENCY

Classic



XP



# AUTOMATIC TESTING

*life is too short for manual testing*

Lifeware automated testing infrastructure

95 000 tests in the code base

60 times a day all tests run

320 processors sustain our test environment

$\Sigma$  coverage informs about untested code

# CONTRACT CENTRIC SYSTEM

[Inbox](#)
[Herman Saturniidae](#)
[Calendar](#)
[Docs](#)
[Processes](#)
[Forex](#)
[Queue](#)
[Pivot](#)
[ZV](#)
[Settlements/Solvency II](#)
[Maintenance](#)



Search

Home / GSJ-1015-241, Kory N...

## GSJ-1015-241, Kory Neolasioptera

Actions ▾

[Key Data](#)
[Historie](#)
[Beiträge](#)
[Konti](#)
[Accounts \(graphical\)](#)
[Provisionen](#)
[Business Profile](#)
[World Check](#)

2017	2018	2019
01.07 Application 01.07 Umstellung Provision	01.07 Dynamic increase 14.10 Reserve Correction	01.07 Dynamic increase

valid from 1 July 2019

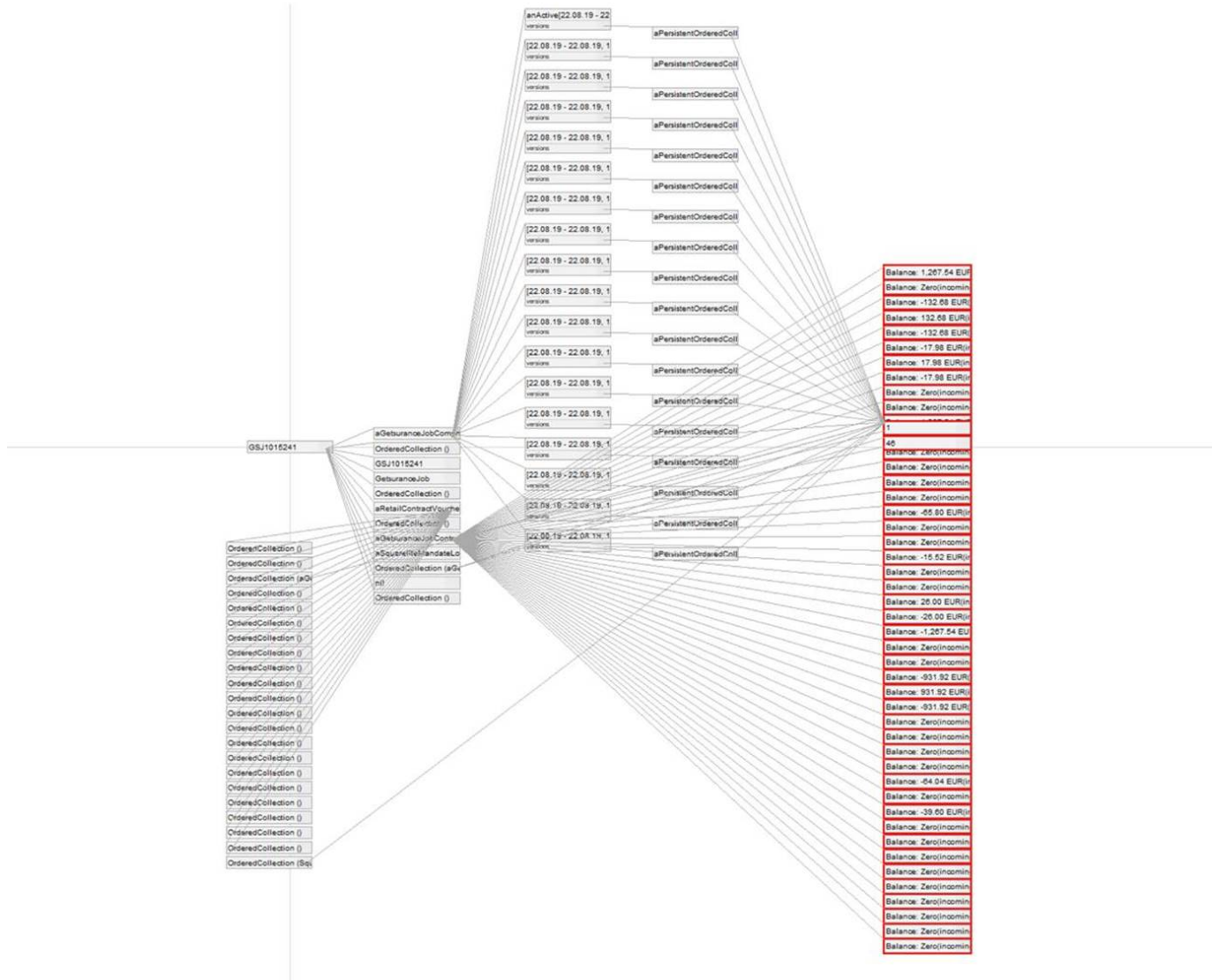
Policyholder	Mr. Kory Neolasioptera, Sulzhoferstraße 16, DE-67744 Hohenöllen	
Insured	Mr. Kory Neolasioptera, Sulzhoferstraße 16, DE-67744 Hohenöllen	
Payer	Kory Neolasioptera, Sulzhoferstraße 16, DE-67744 Hohenöllen	
Intermediary	Plautia Inc., Friedrichstraße 123, DE-10117 Berlin	
Tariff	Job Premium	
Duration	01.07.2017 - 30.06.2038 (21 years)	
Premium	*** 49.97 EUR (monthly)	
Premium breakdown	<ul style="list-style-type: none"> <li>Alfa 3.35 EUR</li> <li>Beta 0.71 EUR</li> <li>Reinsurance Beta 1.67 EUR</li> <li>Gamma 0.62 EUR</li> <li>Stückkosten 2.60 EUR</li> <li>Rückversicherung 36.93 EUR</li> <li>Selbsbehalt 4.10 EUR</li> <li>Zusatzrisiko 0.00 EUR</li> <li>Reserve </li> </ul>	<a href="#">Details</a>
Dynamic	2%	
Benefit Dynamic	0%	
Annual pension	*** 11,820.00 EUR	
Death benefit	0.00 EUR	
Job class	1 - Versicherungsvertreter Aussendienst	
BMI	24.6	



# DEMO

**OR BACKUP  
SLIDES...**

# CONTRACT CENTRIC SYSTEM



# CONTRACT TOOLS

Inbox Herman Saturniidae Calendar Docs Processes Forex Queue Pivot ZV Settle



Home / Results for: GSJ / GSJ-1015-241, Kory N... / Reserve Correction -...

## GSJ-1015-241, Kory Neolasioptera

Key Data	Historie	Beiträge	Konti	Accounts (graphical)	Provisionen	Business Profile	World Check
Start - End	Event	Documents					
03.06.19 - 03.06.19	Dynamic increase						
28.02.19 - 28.02.19	Umstellung Provision						
14.10.18 - 14.10.18	Reserve Correction						
16.06.18 - 16.06.18	Dynamic increase						
20.06.17 - 20.06.17	Application						

# CONTRACT TOOLS

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# CONTRACT TOOL

## Dynamic increase - GSJ-1015-241, Kory Neolasioptera

Changes

Logbook

Correspondence

Documents

Documentstree

Upload

### Dynamic increase

Start	Monday, 03.06.2019, 07:00:45, k.A.
End	Monday, 03.06.2019, 07:00:42, k.A.
Duration	23 hours, 59 minutes, 57 seconds

### Comments

# CONTRACT TOOL

## Dynamic increase - GSJ-1015-241, Kory Neolasioptera

Changes Logbook Corr

### Dynamic increase

Start
End
Duration

### Comments

a SquarelifeDynamicTool

Object Edit Go History Explore Tools Help

◀ ▶ 🔍 ⏪ ⏩ ⚙️ 📄 📁

GS Basic GS Delegate

- self
- status
- contract
- effectiveDate
- task
- correspondenceEditor
- doubleCheck
- logbook
- customerClubDocuments**
- chat
- tracker
- overriddenRules
- oldBenefit
- newBenefit
- increaseTimestamp

**self:** SquarelifeDynamicTool - GSJ1015241  
**status:** aFinishedStatus  
**contract:** GSJ1015241  
**effectiveDate:** aCSDate 1. Jul. 2019  
**task:** 'Dynamic increase' oid: <#Task' 8bbc6527-85bc-11e9-8e66-ecf4bbd66cfd>  
**correspondenceEditor:** aSquareEditableLetter  
**doubleCheck:** aReasonWithFlag  
**logbook:** aSquarelifeLogBook  
**chat:** aChat  
**tracker:** anUserTracker  
**overriddenRules:** anOverrides  
**oldBenefit:** 11631 EUR  
**newBenefit:** 11820 EUR  
**increaseTimestamp:** 03.06.19, 07:00:42:000

# TEST SUCKER METHODS

Package	Class	Instance	Class	Shared Variable	Instance Variable
<ul style="list-style-type: none"><li>Object<ul style="list-style-type: none"><li>PersistentObject<ul style="list-style-type: none"><li><input type="checkbox"/> SquarelifeAbstractTool</li><li><input type="checkbox"/> SquarelifeTool</li><li><input type="checkbox"/> <b>SquarelifeDynamicTool</b></li></ul></li></ul></li></ul>	<b>Squarelife Tools (+2864)</b>	4 accessing 5 actions 3 documents 1 events 1 initialize-release 1 preparing documents 1 private			<ul style="list-style-type: none"><li>tag</li><li>templates</li><li>updateAsuroVersion:at:</li><li>updateGetsuranceJobVers</li><li>updateVersion:at:</li><li><b>writeSuckerEventsOn:</b></li><li>_translation</li></ul>

[Source](#)  Definition | Rewrite | Dynamic test rewrite | Code Critic |  Comment ⚠ | ∂ Watches | Changes

```
writeSuckerEventsOn: stream  
  stream nextPut: (SquarelifeTidyUpBatchEvent timestamp: task end)
```



# TEST SUCKER METHODS

Package **Class** Instance Class | Shared Variable | Instance Variable

- Object
  - PersistentObject
    - SquarelifeAbstractTool
    - SquarelifeTool
    - SquarelifeDynamicTool**

**Squarelife Tools (+2864)**

- 4 accessing
- 5 actions
- 3 documents
- 1 events
- 1 initialize-release
- 1 preparing documents
- 1 private

- ▲ tag
- ▲ templates
  - updateAsuroVersion:at:
  - updateGetsuranceJobVers
- ▲ updateVersion:at:
- ▲ **writeSuckerEventsOn:**
- ▲ \_translation

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**writeSuckerEventsOn:** stream

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Package	Class	Instance	Class	Shared Variable	Instance Variable
<ul style="list-style-type: none"><li>Object</li><li>PersistentObject<ul style="list-style-type: none"><li>GenerableReplayEvent</li><li>SimpleEvent</li><li><b>SquarelifeTidyUpBatchEvent</b></li></ul></li></ul>	<b>Events (+291)</b>	1 accessing 2 comparing 1 events 1 private			<ul style="list-style-type: none"><li>=</li><li>hash</li><li>setTimestamp:</li><li><b>templateWith:</b></li><li>timestamp</li></ul>

[Source](#)  Definition | Rewrite | Dynamic test rewrite | Code Critic |  Comment ⚠ | ∂ Watches | Changes

**templateWith:** builder

```
self timestamp: timestamp.  
self runTidyUpBatchAt: timestamp|
```

# CONVERSION TO TEST

```
templateWith: builder
```

```
self timestamp: timestamp.
```

```
self runTidyUpBatchAt: timestamp|
```

GEMSTONE<sup>™</sup>



Inlining refactorings

- Variables
- Methods

self

timestamp: (3 jun: 2019) @ '07:00:42.000';

runTidyUpBatchAt: (3 jun: 2019) @ '07:00:42.000'

# TEST SUCKED

## Development

## Production

Development

Production

Home / GSJ-1015-241, Kory N...

GSJ-1015-241, Kory Neolasioptera

Actions

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Insured	Mr. Kory Neolasioptera, Sulzhoferstraße 16, DE-67744 Hohenöllen
Payer	Kory Neolasioptera, Sulzhoferstraße 16, DE-67744 Hohenöllen
Intermediary	None
Tariff	Job Premium
Duration	01.07.2017 - 30.06.2038 (21 years)
Premium	... 50.15 EUR (monthly)

Home / Results for: GSJ / GSJ-1015-241, Kory N... / Dynamic increase - G...

GSJ-1015-241, Kory Neolasioptera

Actions

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Duration	01.07.2017 - 30.06.2038 (21 years)
Premium	... 49.97 EUR (monthly)

SQUARELIFETEST 23.08.19, 02:00 - INTEGRATION VERSION 23.08.19, 07:52

**END OF DEMO  
BACKUP SLIDES**

# LIMITATIONS

## Test sucker

- does not handle manual changes
- has to be implemented for each tool
- may become tedious

**templateWith: builder**

**self** testcase timestamp: **self** timestamp.

**builder** newApplicationNamed: **application** contract policyNumber  
currency: **application** version currency.

(**builder** application)

policyholder: (**builder** partnerWithEmail: **application** policyholder email);

insured: (**builder** partnerWithEmail: **application** insured email);

broker: **builder** client broker3A;

channel: **builder** client brokerC4C;

origin: **application** version origin;

plan: **application** version plan;

initialCredit: **application** version initialCredit;

creditAmortizationDuration: **application** version creditAmortizationDuration;

creditRate: **application** version creditRate;

currency: **application** version currency;

deathCoverage: **true**;

additionalCoverages: **application** version additionalCoverages;

generalCondition: **application** version generalCondition.

(**builder** application)

apply;

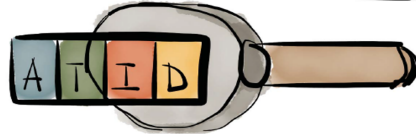
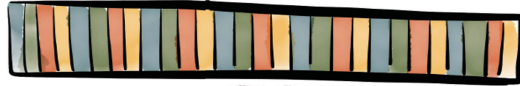
putInForceAt: **application** task end by: **builder** martaGiorgetti

# EXTREME EFFICIENCY

Classic



XP



# CONTRACT TOOLS

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sophisticated simplicity

# TEST SUCKED

Development

Production

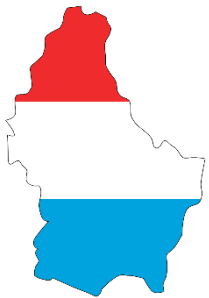


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sophisticated simplicity

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- Design innovative solutions
- Transition to Pharo

[hresource@lifeware.ch](mailto:hresource@lifeware.ch)